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HUANG, WEN WU	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/773,287	PALIN ET AL.	
	Examiner	Art Unit	
	Wen W. Huang	2618	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *28 November 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-25* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-25* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

DETAILED ACTION

Claims 1-25 are pending.

Claim Objections

Claim 19 is objected to because of the following informalities:

Claim 19 recites identical limitation as to claim 14. The Examiner considers claim 19 to recite similar limitations as claim 4. Appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

1. Claims 1, 2, 4, 6, 10-12, 15 and 19-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Adachi (US. 6,256,334 B1) in view of Hlasny (US. 6,603,799 B1), Giannakis et al. (US. Pub No. 2005/0105594 A1; hereinafter "Giannakis") and Tanabe et al. (US. 5,754,947; hereinafter "Tanabe")

Regarding **claim 1**, Adachi teaches a method in a wireless communications device (see Adachi, fig. 3), comprising:

identifying a frequency hopping pattern associated with at least one remote short-range wireless communications network (see Adachi, fig. 6, S1 and S2; col. 17, lines 49-53; detecting a FH pattern and timing of another radio LAN 10 in the vicinity);

based on the identified frequency hopping pattern in the at least one remote short-range wireless communication network, selecting a frequency hopping pattern for communications in a local short-range wireless communications network (see Adachi, fig. 6, S3; col. 17, lines 53-56);

based on the identified frequency hopping pattern, selecting a timing for the selected frequency hopping pattern (see Adachi, fig. 6, S4; col. 17, lines 57-59);

communicating the selected frequency hopping pattern and timing to the local short-range wireless communication (see Adachi, fig. 6, S5; col. 17, line 59-60 and col. 17, line 66 – col. 18, line 7);

transmitting data on a transmit frequency band according to the selected frequency hopping pattern (see Adachi, col. 11, lines 49-51; and fig. 6, S5; col. 17, line 59-60).

Adachi is silent to teaching that comprising:

identifying a frequency hopping pattern via measuring energy level in a plurality of frequency bands operating in the Ultra Wide Band (UWB) of 3.1 Ghz to 10.6 Ghz; and

selecting a timing based on the measured energy level;

monitoring a frequency band to identify a low energy condition associated with the frequency band; and

after identifying the low energy condition, transmitting data, after a predetermined time delay.

In the same field of endeavor, Hlasny teaches a method in a wireless communication device (see Hlasny, abstract) comprising

identifying a frequency hopping pattern via measuring energy level in a plurality of frequency bands (see Hlasny, col. 4, line 58 - col. 5, line 1, PF1, PF2 and PF3); and

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to combine the teaching of Adachi and the teaching of Hlasny in order to efficiently identifying potentially interfering frequency hopping pattern (see Hlasny, col. 2, lines 23-33).

Hlasny teaches identifying the interfering frequency hopping pattern and timing based on the measured energy level and Adachi teaches selecting a timing based on the identified interfering frequency hopping pattern and timing. Thus, the combination of Adachi and Hlasny teaches (c) based on the identified frequency hopping pattern, selecting a timing for the selected frequency hopping pattern based on the measured energy level (see Adachi, col. 17, lines 57-59 and Hlasny, col. 4, line 63 – col. 5, line 1).

The combination of Adachi and Hlasny is silent to teaching

frequency hopping in a plurality of frequency bands operating in the Ultra Wide Band (UWB) of 3.1 Ghz to 10.6 Ghz;

monitoring a frequency band to identify a low energy condition associated with the frequency band; and

after identifying the low energy condition, transmitting data, after a predetermined time delay.

However, the claimed limitation is well known in the art as evidenced by Giannakis and Tanabe.

In the same field of endeavor, Giannakis teaches frequency hopping in a plurality of frequency bands operating in the Ultra Wide Band (UWB) of 3.1 Ghz to 10.6 Ghz (see Giannakis, para. [0039]).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to combine the teaching of Adachi and Hlasny and the teaching of Giannakis in order improve system capacity of the short-range wireless communications network (see Giannakis, para. [0015], lines 1-5).

The combination of Adachi, Hlasny and Giannakis is silent to teaching

monitoring a frequency band to identify a low energy condition associated with the frequency band; and

after identifying the low energy condition, transmitting data, after a predetermined time delay. However, the claimed limitation is well known in the art as evidenced by Tanabe.

In the same field of endeavor, Tanabe teaches a method comprising:

monitoring a frequency band to identify a low energy condition associated with the frequency band (see Tanabe, fig. 8, step S04; col. 11, lines 11-19); and

after identifying the low energy condition, transmitting data (see Tanabe, fig. 8, step S06, col. 11, lines 27-42), after a predetermined time delay (see Tanabe, fig. 8, step S05, col. 11, lines 21-25).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to combine the teaching of Adachi, Hlasny and Giannakis with the teaching of Tanabe in order to avoid data collision and reduce interference (see Tanabe, col. 1, lines 63-67).

Regarding **claim 2**, the combination of Adachi, Hlasny, Giannakis and Tanabe also teaches the method of claim 1, further comprising: transmitting one or more symbols according to the selected frequency hopping pattern and the selected timing (see Adachi, fig. 1, component 52; col. 11, lines 41-51).

Regarding **claim 4**, the combination of Adachi, Hlasny, Giannakis and Tanabe also teaches the method of claim 1, wherein the monitored frequency band is the same frequency band as the transmit frequency band (see Tanabe, col. 11, lines 11-14 and 28-33; the busy tone channel)

Regarding **claim 6**, the combination of Adachi, Hlasny, Giannakis and Tanabe also teaches the method of claim 1, wherein the identified frequency hopping pattern and the selected frequency-hopping pattern are the same (see Adachi, fig. 6, S4; col. 17, lines 53-56).

Regarding **claim 10**, the combination of Adachi, Hlasny, Giannakis and Tanabe teaches the method of claim 1, further comprising: directing one or more remote wireless communications devices to employ the selected frequency hopping pattern (see Adachi, col. 17, line 66 – col. 18, line 7).

Regarding **claim 11**, Adachi teaches a system (see Adachi, fig. 3), comprising:

means for identifying a frequency hopping pattern associated with at least one remote short-range wireless communications network (see Adachi, fig. 6, S1 and S2; col. 17, lines 49-53; detecting a FH pattern and timing of another radio LAN 10 in the vicinity);

means for selecting a frequency hopping pattern for communications in a local short-range wireless communications network based on the identified frequency hopping pattern in the at least one remote short-range wireless communication network (see Adachi, fig. 6, S3; col. 17, lines 53-56);

means for selecting a timing for the selected frequency hopping pattern based on the identified frequency hopping pattern (see Adachi, fig. 6, S4; col. 17, lines 57-59);

means for communicating the selected frequency hopping pattern and timing to the local short-range wireless communication (see Adachi, fig. 6, S5; col. 17, line 59-60 and col. 17, line 66 – col. 18, line 7); and

means for transmitting data on a transmit frequency band according to the selected frequency hopping pattern (see Adachi, col. 11, lines 49-51; and fig. 6, S5; col. 17, line 59-60).

Adachi is silent to teaching that comprising:

means for identifying a frequency hopping pattern via measuring energy level in a plurality of frequency bands operating in the Ultra Wide Band (UWB) of 3.1 Ghz to 10.6 Ghz;

means for selecting a timing for the selected frequency hopping pattern based on the measured energy level;

means for monitoring a frequency band to identify a low energy condition associated with the frequency band; and

after identifying the low energy condition, means for transmitting data, after a predetermined time delay.

In the same field of endeavor, Hlasny teaches a system (see Hlasny, abstract) comprising

means for identifying a frequency hopping pattern via measuring energy level in a plurality of frequency bands (see Hlasny, col. 4, line 58 - col. 5, line 1, PF1, PF2 and PF3); and

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to combine the teaching of Adachi and the teaching of Hlasny in order to efficiently identifying potentially interfering frequency hopping pattern (see Hlasny, col. 2, lines 23-33).

Hlasny teaches identifying the interfering frequency hopping pattern and timing based on the measured energy level and Adachi teaches selecting a timing based on the identified interfering frequency hopping pattern and timing. Thus, the combination of Adachi and Hlasny teaches means for selecting a timing for the selected frequency hopping pattern based on the measured energy level (see Adachi, col. 17, lines 57-59 and Hlasny, col. 4, line 63 – col. 5, line 1).

The combination of Adachi and Hlasny is silent to teaching

frequency hopping in a plurality of frequency bands operating in the Ultra Wide Band (UWB) of 3.1 Ghz to 10.6 Ghz;

means for monitoring a frequency band to identify a low energy condition associated with the frequency band; and

after identifying the low energy condition, means for transmitting data, after a predetermined time delay.

However, the claimed limitation is well known in the art as evidenced by Giannakis and Tanabe.

In the same field of endeavor, Giannakis teaches frequency hopping in a plurality of frequency bands operating in the Ultra Wide Band (UWB) of 3.1 Ghz to 10.6 Ghz (see Giannakis, para. [0039]).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to combine the teaching of Adachi and Hlasny and the teaching of Giannakis in order improve system capacity of the short-range wireless communications network (see Giannakis, para. [0015], lines 1-5).

The combination of Adachi, Hlasny and Giannakis is silent to teaching

means for monitoring a frequency band to identify a low energy condition associated with the frequency band; and

after identifying the low energy condition, means for transmitting data, after a predetermined time delay. However, the claimed limitation is well known in the art as evidenced by Tanabe.

In the same field of endeavor, Tanabe teaches a method comprising:

mans for monitoring a frequency band to identify a low energy condition associated with the frequency band (see Tanabe, fig. 8, step S04; col. 11, lines 11-19); and

after identifying the low energy condition, means for transmitting data (see Tanabe, fig. 8, step S06, col. 11, lines 27-42), after a predetermined time delay (see Tanabe, fig. 8, step S05, col. 11, lines 21-25).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to combine the teaching of Adachi, Hlasny and Giannakis with the teaching of Tanabe in order to avoid data collision and reduce interference (see Tanabe, col. 1, lines 63-67).

Regarding **claims 12, 15 and 19**, the dependent apparatus claims are interpreted and rejected for the same reasons as set forth above in method claims 2, 6 and 4, respectively above.

Regarding **claim 20**, Adachi teaches a wireless communications device (see Adachi, fig. 3), comprising:

a carrier sensing module configured to monitor transmissions in a plurality of frequency bands (see Adachi, fig. 1, components 58 and 59; col. 13, lines 50-60);

a timing controller (see Adachi, fig. 1, component 50) configured to transmit scan messages inquiring about neighborhood networks and frequency hopping patterns they employ (see Adachi, col. 12, lines 22-32) and select from scan responses a frequency hopping pattern for a local short-range wireless network based on a frequency hopping pattern of a remote short-range wireless communications network detected by the carrier sensing module (see Adachi, fig. 6, S3; col. 17, lines 53-56);

the timing controller further (see Adachi, fig. 1, components 50c and 50d) configured to transmit signals to control one or more transmission times according to the selected frequency hopping pattern based on a timing detected in a frequency band by the carrier sensing module (see Adachi, col. 13, lines 50-60);

a transceiver (see Adachi, fig. 1, components 51, 52 and 53), responsive to the transmit signals (see Adachi, fig. 1, component 50c), configured to transmit data at the one or more data transmission times according to the selected frequency hopping pattern (see Adachi, fig. 6, S5; col. 17, line 59-60 and col. 17, line 66 – col. 18, line 7); and

the carrier sensing module configured to transmit data according to the selected frequency hopping pattern (see Adachi, col. 11, lines 49-51; and fig. 6, S5; col. 17, line 59-60).

Adachi is silent to teaching

transmissions in a plurality of frequency bands operating in the Ultra Wide Band of 3.1 Ghz to 10.6 Ghz;

the timing controller configured to transmit signals to control one or more transmission times based on energy levels detected in a frequency band; and

a carrier sensing module configured to monitor a frequency band to identify a low energy condition and to transmit the data according a predetermined time delay after identifying the low energy condition.

In the same field of endeavor, Hlasny teaches a wireless communication device (see Hlasny, abstract) wherein detecting a timing of the remote short-range wireless communication network based on energy levels detected (see Hlasny, col. 4, line 58 - col. 5, line 1).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to combine the teaching of Adachi and the teaching of Hlasny in order to efficiently identifying potentially interfering frequency hopping pattern and timing (see Hlasny, col. 2, lines 23-33).

Hlasny teaches detecting a timing of a remote network based on measured energy level and Adachi teaches controlling one or more transmission times based on a timing detected. Thus, the combination of Adachi and Hlasny teaches the timing controller configured to transmit signals to control one or more transmission times based on energy levels detected in a frequency band by the carrier sensing module (see Adachi, col. 17, lines 57-59 and Hlasny, col. 4, line 63 – col. 5, line 1).

The combination of Adachi and Hlasny is silent to teaching

transmissions in a plurality of frequency bands operating in the Ultra Wide Band of 3.1 Ghz to 10.6 Ghz; and

a carrier sensing module configured to monitor a frequency band to identify a low energy condition and to transmit the data according a predetermined time delay after identifying the low energy condition. However, the claimed limitation is well known in the art as evidenced by Giannakis and Tanabe.

In the same field of endeavor, Giannakis teaches transmissions in a plurality of frequency bands operating in the Ultra Wide Band of 3.1 Ghz to 10.6 Ghz (see Giannakis, para. [0039]).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to combine the teaching of Adachi and Hlasny and the teaching of Giannakis in order improve system capacity of the short-range wireless communications network (see Giannakis, para. [0015], lines 1-5).

The combination of Adachi, Hlasny and Giannakis is silent to teaching the carrier sensing module configured to monitor a frequency band to identify a low energy condition and to transmit the data according a predetermined time delay after identifying the low energy condition. However, the claimed limitation is well known in the art as evidenced by Tanabe.

In the same field of endeavor, Tanabe teaches a carrier sensing module configured to monitor a frequency band to identify a low energy condition (see Tanabe, fig. 8, step S04; col. 11, lines 11-19) and to transmit the data (see Tanabe, fig. 8, step

S06, col. 11, lines 27-42) according a predetermined time delay after identifying the low energy condition (see Tanabe, fig. 8, step S05, col. 11, lines 21-25).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to combine the teaching of Adachi, Hlasny and Giannakis with the teaching of Tanabe in order to avoid data collision and reduce interference (see Tanabe, col. 1, lines 63-67).

Regarding **claim 21**, the combination of Adachi, Hlasny, Giannakis and Tanabe also teaches the wireless communications device of claim 20, wherein the transceiver is further configured to transmit the selected frequency hopping pattern to one or more devices in the local short-range wireless network (see Adachi, fig. 6, S5; col. 17, line 59-60 and col. 17, line 66 – col. 18, line 7).

Regarding **claim 22**, the combination of Adachi, Hlasny, Giannakis and Tanabe also teaches the wireless communications device of claim 21, wherein the transceiver is further configured to transmit the selected frequency hopping pattern to the one or more devices in the local short-range wireless network in a beacon transmission (see Adachi, col. 1, lines 30-32).

Regarding **claim 23**, Adachi teaches a wireless communications device (see Adachi, fig. 3), comprising:

a carrier sensing module configured to monitor transmissions in one or more frequency bands (see Adachi, fig. 1, components 58 and 59; col. 13, lines 50-60);

a timing controller (see Adachi, fig. 1, component 50) generating scan messages inquiring about neighborhood networks and frequency hopping patterns they employ (see Adachi, col. 12, lines 22-32) and configured to control one or more transmission times according to a frequency hopping pattern based on a timing detected in a frequency band by the carrier sensing module (see Adachi, col. 13, lines 50-60);

a transceiver (see Adachi, fig. 1, components 51, 52, 53, 58 and 59) configured to receive the frequency hopping pattern from a device in the local short-range wireless communications network (see Adachi, fig. 1, components 58 and 29), and to transmit data at the one or more data transmission times according to the frequency hopping pattern (see Adachi, fig. 6, S5; col. 17, line 59-60 and col. 17, line 66 – col. 18, line 7); and

the carrier sensing module configured to transmit data according to the selected frequency hopping pattern (see Adachi, col. 11, lines 49-51; and fig. 6, S5; col. 17, line 59-60).

Adachi is silent to teaching

transmissions in a plurality of frequency bands operating in the Ultra Wide Band of 3.1 Ghz to 10.6 Ghz;

the timing controller configured to control one or more transmission times based on energy levels detected in a frequency band; and

the carrier sensing module configured to monitor a frequency band to identify a low energy condition and to transmit the data according a predetermined time delay after identifying the low energy condition.

In the same field of endeavor, Hlasny teaches a wireless communication device (see Hlasny, abstract) wherein detecting a timing of the remote short-range wireless communication network based on energy levels detected (see Hlasny, col. 4, line 58 - col. 5, line 1).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to combine the teaching of Adachi and the teaching of Hlasny in order to efficiently identifying potentially interfering frequency hopping pattern and timing (see Hlasny, col. 2, lines 23-33).

Hlasny teaches detecting a timing of a remote network based on measured energy level and Adachi teaches controlling one or more transmission times based on a timing detected. Thus, the combination of Adachi and Hlasny teaches the timing controller configured to control one or more transmission times based on energy levels detected in a frequency band by the carrier sensing module (see Adachi, col. 17, lines 57-59 and Hlasny, col. 4, line 63 – col. 5, line 1).

The combination of Adachi and Hlasny is silent to teaching

transmissions in a plurality of frequency bands operating in the Ultra Wide Band of 3.1 Ghz to 10.6 Ghz; and

the carrier sensing module configured to monitor a frequency band to identify a low energy condition and to transmit the data according a predetermined time delay

after identifying the low energy condition. However, the claimed limitation is well known in the art as evidenced by Giannakis.

In the same field of endeavor, Giannakis teaches transmissions in a plurality of frequency bands operating in the Ultra Wide Band of 3.1 Ghz to 10.6 Ghz (see Giannakis, para. [0039]).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to combine the teaching of Adachi and Hlasny and the teaching of Giannakis in order improve system capacity of the short-range wireless communications network (see Giannakis, para. [0015], lines 1-5).

The combination of Adachi, Hlasny and Giannakis is silent to teaching the carrier sensing module configured to monitor a frequency band to identify a low energy condition and to transmit the data according a predetermined time delay after identifying the low energy condition. However, the claimed limitation is well known in the art as evidenced by Tanabe.

In the same field of endeavor, Tanabe teaches a carrier sensing module configured to monitor a frequency band to identify a low energy condition (see Tanabe, fig. 8, step S04; col. 11, lines 11-19) and to transmit the data (see Tanabe, fig. 8, step S06, col. 11, lines 27-42) according a predetermined time delay after identifying the low energy condition (see Tanabe, fig. 8, step S05, col. 11, lines 21-25).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to combine the teaching of Adachi, Hlasny and

Giannakis with the teaching of Tanabe in order to avoid data collision and reduce interference (see Tanabe, col. 1, lines 63-67).

Regarding **claim 24**, the combination of Adachi, Hlasny, Giannakis and Tanabe also teaches the wireless communications device of claim 23, wherein the transceiver is further configured to receive the frequency hopping pattern in a beacon transmission (see Adachi, col. 1, lines 30-32).

2. Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Adachi, Fleek et al. (US. 5,533,025; hereinafter "Fleek") and Tanabe.

Regarding **claim 25**, Adachi teaches a method in a wireless communications device (see Adachi, fig. 3), comprising:

generating scan messages inquiring about neighborhood networks and frequency hopping pattern they employ (see Adachi, col. 12, lines 22-32);

monitoring transmissions in one or more frequency bands of a plurality of channels (see Adachi, fig. 1, components 58 and 59; col. 17, lines 35-40);

based on the monitored transmissions, determining

a plurality of unique time frequency codes (TFC) for each of a plurality of networks (see Adachi, col. 18, lines 22-26);

selecting one of the unique TFC for use in a local short-range wireless communications network based on a TFC of a neighbor remote wireless communications network (see Adachi, see col. 18, lines 27-34);

distributing information regarding the selected TFC to one or more remote devices within the local short-range wireless communications network (see Adachi, fig. 6, S5; col. 17, line 59-60 and col. 17, line 66 – col. 18, line 7); and

transmitting the data according to the selected TFC (see Adachi, col. 11, lines 49-51; and fig. 6, S5; col. 17, line 59-60).

Adachi is silent to teaching that

determining whether the wireless communications device needs to transmit data within the local short-range wireless communications network;

monitoring one or more of the frequency bands to designate a transmission timing for the data;

identifying a low energy condition associated with the frequency band; and

after identifying the low energy condition, transmitting data, after a predetermined time delay. However, the claimed limitation is well known in the art as evidenced by Fleek and Tanabe.

In the same field of endeavor, Fleek teaches a method in wireless communication device comprising:

determining whether the wireless communications device needs to transmit data within the local short-range wireless communications network (see Fleek, col. 5, lines 31-33); and

monitoring one or more of the frequency bands to designate a transmission timing for the data (see Fleek, col. 5, lines 34-39 and 48-49).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to combine the teaching of Adachi with the teaching of Fleek in order to maintain frequency hopping synchronization and avoid collision (see Fleek, col. 2, lines 55-59).

The combination of Adachi and Fleek is silent to teaching

identifying a low energy condition associated with the frequency band; and

after identifying the low energy condition, transmitting data, after a predetermined time delay. However, the claimed limitation is well known in the art as evidenced by Tanabe.

In the same field of endeavor, Tanabe teaches a method comprising:

identifying a low energy condition associated with the frequency band (see Tanabe, fig. 8, step S04; col. 11, lines 11-19); and

after identifying the low energy condition, transmitting data (see Tanabe, fig. 8, step S06, col. 11, lines 27-42), after a predetermined time delay (see Tanabe, fig. 8, step S05, col. 11, lines 21-25).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to combine the teaching of Adachi and Fleek with the teaching of Tanabe in order to avoid data collision and reduce interference (see Tanabe, col. 1, lines 63-67).

3. Claims 3 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Adachi, Hlasny, Giannakis and Tanabe as applied to claims 2 and 11, respectively above, and further in view of Ryan (US. 6,333,937 B1).

Regarding **claim 3**, the combination of Adachi, Hlasny, Giannakis and Tanabe teaches the method of claim 2.

The combination of Adachi, Hlasny, Giannakis and Tanabe is silent to teaching that wherein the one or more symbols are OFDM symbols. However, the claimed limitation is well known in the art as evidenced by Ryan.

In the same field of endeavor, Ryan teaches a method in a wireless communications device wherein the one or more symbols are OFDM symbols (see Ryan, col. 3, lines 35-41).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to combine the teaching of Adachi, Hlasny, Giannakis and Tanabe with the teaching of Ryan in order to improve the performance of the wireless communication (see Ryan, col. 3, lines 43-54).

Regarding **claim 13**, the apparatus claim is interpreted and rejected for the same reason as set forth above in claim 3.

4. Claims 7-9 and 16-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Adachi, Hlasny, Giannakis and Tanabe as applied to claims 1, 6, 11 and 15,

respectively above, and further in view of Lyle et al. (US. Pub No. 2005/0058181 A1; hereinafter "Lyle")

Regarding **claim 7**, the combination of Adachi, Hlasny, Giannakis and Tanabe teaches the method of claim 6.

The combination of Adachi, Hlasny, Giannakis and Tanabe is silent to teaching that wherein the selected frequency hopping pattern provides for no collisions between the remote short-range wireless communications network and the local short-range wireless communications network. However, the claimed limitation is well known in the art as evidenced by Lyle.

In the same field of endeavor, Lyle teaches that wherein the selected frequency hopping pattern provides for no collisions between the remote short-range wireless communications network and the local short-range wireless communications network (see Lyle, para. [0032], lines 6-10).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to combine the teaching of Adachi, Hlasny, Giannakis and Tanabe with the teaching of Lyle in order to improve communication quality and reduce data collision as suggested by Adachi (see Adachi, col. 4, lines 5-10).

Regarding **claim 8**, the combination of Adachi, Hlasny, Giannakis and Tanabe teaches the method of claim 1.

The combination of Adachi, Hlasny, Giannakis and Tanabe is silent to teaching that wherein the identified frequency hopping pattern and the selected frequency hopping pattern are different. However, the claimed limitation is well known in the art as evidenced by Lyle.

In the same field of endeavor, Lyle teaches that wherein the identified frequency hopping pattern and the selected frequency hopping pattern are different (see Lyle, para. [0038], lines 1-5).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to combine the teaching of Adachi, Hlasny, Giannakis and Tanabe with the teaching of Lyle in order to improve communication quality and reduce data collision as suggested by Adachi (see Adachi, col. 4, lines 5-10).

Regarding **claim 9**, the combination of Adachi, Hlasny, Giannakis, Tanabe and Lyle teaches the method of claim 8, wherein the selected frequency hopping pattern provides for minimal collisions between the remote short-range wireless communications network and the local short-range wireless communications network (see Lyle, para. [0034], lines 16-19).

Regarding **claims 16-18**, the dependent apparatus claims are interpreted and rejected for the same reasons as set forth above in method claims 7-9, respectively above.

5. Claims 5 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Adachi, Hlasny, Giannakis and Tanabe as applied to claims 1 and 11, respectively above, and further in view of Tran (US. 5,453,987).

Regarding **claim 5**, the combination of Adachi, Hlasny, Giannakis and Tanabe teaches the method of claim 1.

The combination of Adachi, Hlasny, Giannakis and Tanabe is silent to teaching that wherein the monitored frequency band is different frequency band than the transmit frequency band. However, the claimed limitation is well known in the art as evidenced by Tran.

In the same field of endeavor, Tran teaches a method wherein the monitored frequency band is different frequency band than the transmit frequency band (see Tran, col. 6, lines 29-45).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to combine the teaching of Adachi, Hlasny, Giannakis and Tanabe with the teaching of Tran in order to maintain effective transmission and avoid significant delay (see Tran, col. 1, lines 36-40).

Regarding **claim 14**, the dependent apparatus claim is interpreted and rejected for the same reasons as set forth above in method claim 5 above.

Response to Arguments

Applicant's arguments with respect to claims 1, 11, 20, 23 and 25 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Wen W. Huang whose telephone number is (571) 272-7852. The examiner can normally be reached on 10am - 6pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew D. Anderson can be reached on (571) 272-4177. The fax phone

number for the organization where this application or proceeding is assigned is 571-273-8300.

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MATTHEW ANDERSON
SUPERVISORY PATENT EXAMINER

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